

Virtual Influencers vs. Human Influencers in the Age of Digital Transformation: Which Holds Greater Influence?

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Abstract

The popularity of influencer marketing seems to be on the rise lately, particularly within the tourism sector, where it is being increasingly utilized with significant space for expansion. A novel aspect of this marketing strategy that remains relatively under the radar is virtual influencers (VIs). This study delved into the comparative effectiveness of human (HIs) versus VIs, a topic that has yet to be explored extensively. The results of this study revealed that both influencers (HIs and VIs) have a strong and positive impact on perceived trustworthiness (PT), customers' booking intention (CBI), perceived usefulness (PU), and social presence (SP). Moreover, the study highlighted the crucial role of PT, indicating a positive influence on CBI. PU was also shown to boost CBI significantly. However, the direct impact of SP on booking intentions did not present a statistically significant result. This study contributes significantly to the influencer marketing domain, offering promising insights and laying the groundwork for further exploration. Both theoretical and practical implications of these findings are discussed.

Keywords: Human Influencers (HIs), Virtual Influencers (VIs), Perceived Trustworthiness (PT), Perceived Usefulness (PU), Social Presence (SP), Customers Booking Intention (CBI).

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المؤثرون الافتراضيون

مقابل المؤثرين البشريين في عصر التحول الرقمي: أيهما يتمتع بتأثير أكبر؟

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ملخص

ارتفعت شعبية التسويق عبر المؤثرين في الآونة الأخيرة، خاصة في قطاع السياحة، حيث يتم استخدامه بشكل متزايد مع وجود مجال كبير للتوسع. وكان أحد الجوانب الجديدة من هذه الاستراتيجية التسويقية هو المؤثرين الافتراضيين. فتتعمق هذه الدراسة في مقارنة فعالية المؤثرين البشريين مقابل المؤثرين الافتراضيين، وهو موضوع لم يتم استكشافه على نطاق واسع بعد. وقد كشفت نتائج هذه الدراسة أن كلا من المؤثرين (البشريين والافتراضيين) لهم تأثير قوي وإيجابي على كل من الجدارة بالثقة المدركة، ونية الحجز لدى العملاء، و المنفعة المدركة، والحضور الاجتماعي. علاوة على ذلك، سلطت الدراسة الضوء على الدور الحاسم للجدارة بالثقة المدركة، مما يشير إلى تأثير إيجابي على نية الحجز لدى العملاء. وقد ثبت أيضًا أن المنفعة المدركة تعزز بشكل كبير نية الحجز لدى العملاء. ومع ذلك، فإن التأثير المباشر للوجود الاجتماعي على نوايا الحجز لم يقدم نتيجة ذات دلالة إحصائية. وتساهم هذه الدراسة بشكل كبير في مجال التسويق عبر المؤثرين، حيث توفر رؤى واعدة وتضع الأساس لمزيد من الاستكشاف. كما تم مناقشة كل من الآثار النظرية والعملية لهذه النتائج خلال هذه الدراسة.

الكلمات المفتاحية: المؤثرون البشريون، المؤثرون الافتراضيون، الجدارة بالثقة المدركة، المنفعة المدركة، الحضور الاجتماعي، نية حجز العملاء .

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Introduction

The advent of social media has generated a trend known as influencer marketing, which involves firms collaborating with influencers to enhance brand awareness (Lou & Yuan, 2019). SMIs emerge from the sphere of social media and participate in actions that bring them fame and acknowledgement from their followers (Koay et al., 2022). (Lou et al., 2023) say that social media influencers (SMIs) are well-known people who become experts on a subject and then share their informational online content with other social media users to affect their buying decisions. SMIs use a number of different platforms, including Instagram, YouTube, Snapchat, and TikTok (Tarabieh et al., 2024). As of 2023, Instagram is the most popular medium for influencer marketing (Myers et al., 2024).

According to (Statista, 2024), the influencer marketing industry was worth an amazing US\$16.4 billion in 2022, which is more than doubling its value since 2019. It is expected to grow another 29% in 2023, growing to US\$21.1 billion. For more details, see figure 1. An influencer quickly turns into an important part of a company's advertising plan (Qalati et al., 2022). Ao et al. (2023) say that brands are working with social media influencers more and more now that they know this is a new way to reach their target audiences. Influencer marketing has recently been reported to have been used in campaigns by 93% of marketers, and it is now acknowledged as an important advertising approach (Fang et al., 2022).

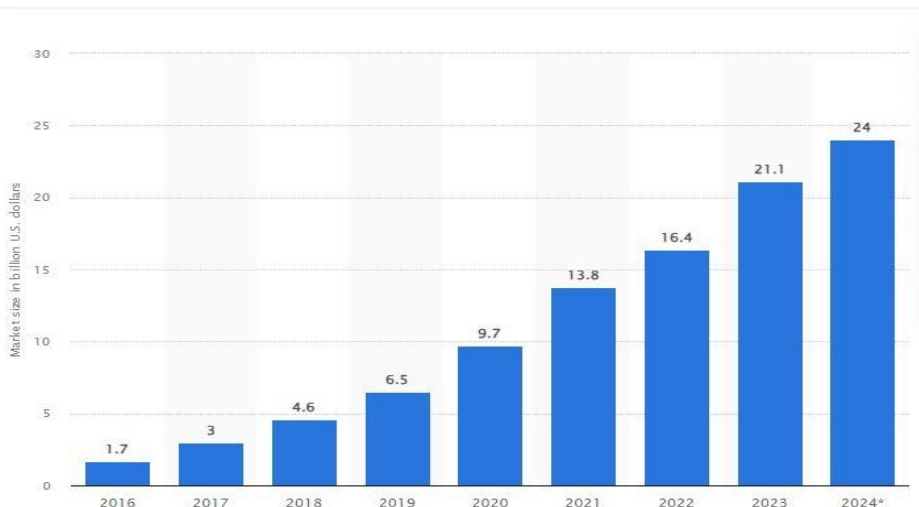


Figure (1) Influencer marketing market size
Source: (Statista, 2024)

(Ferries, 2020) says that 82% of all travel bookings around the world in 2018 were made online. That is a very high number, and it will go up even more in the future. This clearly shows that influencer marketing has a lot of promise in the tourism industry. SMIs are a new trend in tourism marketing that has gotten a lot of attention because they help travel companies get more customers and bring tourists to destinations (Femenia et al., 2022). Because of this, people look to SIM sposts, reviews, blogs, and videos to help them decide where to visit and what to do (Chatzigeorgiou, 2017). This also shows that influencer marketing will become more important in the tourism industry in the coming years.

VIIs are a recently introduced sort of online influencer. These influencers are computer-generated individuals with human-like features and characteristics (Moustakas et al., 2020). HIs now have to deal with competition from virtual influencers (Lou, 2023). They have emerged as an intriguing trend for product promotion on social media (Wolff, 2022). Companies have begun to make their own VIIs, which are actually robots that act like real people. These influencers are completely computer-made and only work online to push certain brands or ideas (Kadekova & Holienčinová, 2018).

VIIs are predicted to have a significant effect on tourism decision making (Xie-Carson et al., 2021). They are the newest soaring genre. According to (Lou et al., 2023), world spending on artificial intelligence (AI) technology will rise from \$50 billion in 2020 to over \$110 billion in 2024. Up to a few million people follow these characters on social media sites that were made up. It has been found that VIIs with the same number of fans have three times higher engagement rates than real-life influencers (Wibawa et al., 2022).

HIs marketing's efficacy has been thoroughly demonstrated in the tourism literature (Cohen et al., 2022). However, VIIs offer several benefits over actual influencers. (Leung et al., 2022) say that VIIs are like HIs in that they make and share content that shows their daily lives, travels, and views. From a management point of view, one interesting thing about VIIs is that they are not limited by time or place. Unlike humans, they don't get tired or need to rest, they don't age, and they know they're going to die eventually (Gerlich, 2023). VIIs also give brands new chances because they can be more flexible and customized, and they can tell any story they want (Moustakas et al., 2020). In 2018, TIME Magazine named Lil Miquela as

one of the 25 most powerful people on the internet (TIME, 2018). For more details, look at the images in Figure 2.



Figure (2) Examples of travel posts by Lil Miquela on Instagram.

However, study on HIs is still in its early stages and hasn't been looked into enough (Tarabiehet al., 2024). However, HIs have only been talked about in tourism writing recently even though they are being used more and more to promote tourist destinations (Duffy & Kang, 2020). Although tourism literature has highlighted the relevance of HIs in tourist's decision making, but not as much has been done to figure out how VIs can affect tourists (Lou et al., 2022). Because of the artificiality of VIs, it is important to know how successful their marketing really is. However, there haven't been many attempts to do this in the current research (e.g., Sands et al., 2022).

Consumers aren't always sure where the content they see came from or whether it's controlled by HIs or VIs (da Silva Oliveira & Chimenti, 2021). According to (Franke et al., 2023), VIs will become much more well-known in the next few years. Also, because VIs are so new, they bring up a lot of questions about everything. For example, they create new digital marketing situations and more. There aren't many studies in e-marketing that have looked into the new trend of VIs. All of them call for more in-depth e-marketing research on this topic (Arusell & Pettersson; 2022; Du, 2022;

Ronnhed & Wiksborg, 2021). VIs are new to influencer marketing, so there isn't a lot of study and writing on the subject. Also, most studies on influencer marketing use HIs, so there isn't much research the effectiveness of VIs (Moustakas et al., 2020), which shows a big gap. Especially since VIs are being used more and more in influencer marketing and customers are becoming more open to using augmented reality tools in marketing(Wolff, 2022). Thus, the study theoretical framework includes six theoretical constructs: HIs, VIs, PT, PU, SP, and CBI.

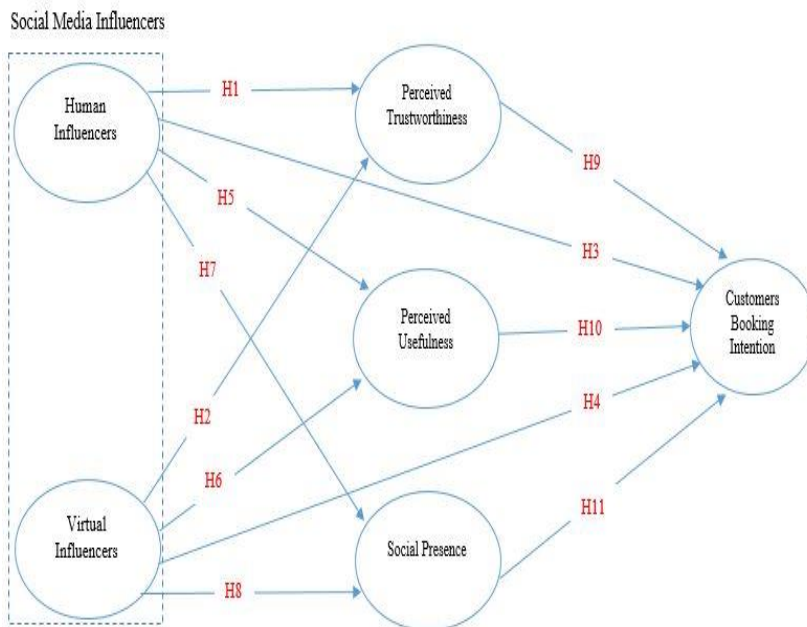


Figure (3) Theoretical Framework

Hypotheses Development

The Impact of SMIs on PT.

(Cheung et al., 2022) say that SMIs have emerged as valuable information sources for digital customers. The research by (Galdón-Salvador et al., (2024) found that 82% of people trust the content of SMIs and are willing to follow their advice. The author (Mammadli, 2021) says that customers believe influencers more than brands. Also, customers' trust in brands went up when influencers were involved (Britt et al., 2020). Customers also trust influencer brand recommendations more than other endorsers because they think influencers don't get paid to post sponsored

content (Audrezet, Kerviler, & Moulard, 2020). If you have a good relationship with a SMIs, you're more likely to believe a brand that influencer has endorsed (Reinikainen et al., 2021). (Schouter et al., 2020) say that influencers are more valuable than celebrities because it's easier for followers to connect with and believe influencers than celebrities. The study found that followers are more likely to believe VIs who use a real human voice because it sounds more like someone they know (Chiou et al., 2020). Therefore, the researcher of this research hypothesized that:

H1: HIs have a significant positive impact on PT.

H2: VIs have a significant positive impact on PT.

The Impact of SMIs on CBI.

Social networking has altered the way individuals plan their trips. SMIs are increasingly being used as successful marketing tactics to promote and build a tourism destination's image (Jaya & Prianthara, 2020). Previous study has indicated that content generated and distributed on social media has a considerable influence on consumer decisions process (Akhtar & Siddiqi, 2023). CBI is a type of purchase intention and represents one of the most essential consumer behavioral intentions (Dao, 2023). (Pop et al., 2022) demonstrate that the higher the effect of social media on choosing a destination, the more likely customers are to modify their travel plans.

According to (Guerreiro et al., 2019), persons who are loyal to SMIs are more likely to visit places/destinations and respect their reputation, honesty, and trust. According to (Marin and Condrea, 2020) influencers have a vital role in consumer choice making when it comes to where to travel or stay. Influencers who create content while on a vacation can simply share it on social media platforms like Facebook, and Instagram and it has a significant influence on those who view it. According to (Dash et al., 2021) a favorable brand image influences CBI. Building this image among social media influencers promotes trust, which leads to increased CBI (Casaló, 2020). Followers might relate with the influencer and wish to have the same experiences as their preferred influencer (Belanche et al., 2021). This implies that if influencers share their favourite trip and an amazing experience, their followers want to enjoy the same experience and book a trip. Thus, the researcher of this study hypothesized that:

H3: HIs have a significant positive effect on CBI.

H4: VIs have a significant positive effect on CBI.

The Impact of SMIs on PU.

(Zhou, 2019) defined PU as how much a consumer thinks an influencer's recommendation will help them do better at shopping; their study shows that PU can effectively make customers have positive attitudes about a product or service and make them want to buy it. According to (Jiménez and Sánchez, 2019), influencers have a big effect in improving customers behavioral intention to purchase online. Also, consumers often got more information about the product from influencers than from companies (Hermenda et al., 2019). According to (Galdón-Salvador et al., 2024), SMIs changed how people thought about a product. In the same way, PU has a big effect on attitude and intentions (Aslam et al., 2022). VIs don't exist in real life, but (Robinson, 2020) found that consumers regard them as genuine and authentic, similar to SMIs, since their activities and engagement rates impact what individuals purchase and which companies they prefer. Thus, the researcher of this study hypothesized that:

H5: HIs have a significant positive impact on PU.

H6: VIs have a significant positive impact on PU.

The Impact of SMIs on SP.

VIs, like HIs, are respected and trusted and can change the way their followers live and behave (Wolff, 2022). According to (Moustakas et al., 2020), most people think that VIs look, behaviour, and have personalities like human people. (Shin and Lee, 2020) also found that social media posts by VIs that showed how they felt or their relationships with other VIs got the most response. So, VIs might have more of an effect when they act like real people than when they don't. Researchers (Seymour et al., 2020) discovered that people trusted and related to a highly realistic character more than a cartoon character. People will be more open to VIs who looks most like real people, and they will have a stronger SP (Schroeder & Epley, 2016).

Also, (Robinson, 2020) found that VIs are the same as HIs because some of them are honest about their virtual identity and why they do what they do. This makes them the most real influencers. VIs who lie about their virtual identity are also like most HIs who lie about their traits and assets. This means that VIs are just as real as HIs (Robinson, 2020). So, it shouldn't be a surprise that VIs can also have a good effect on brand benefits and influence followers and customers (Thomas & Fowler, 2020).

(Khan and Sutcliffe, 2014) also discovered that anthropomorphic VIs, especially attractive ones, can make people act and react in social responses. This shows that people feel more at ease talking to VIs when they think they are around something social, like a real person. SP is a way to measure this sense of humanity (Men & Tsai, 2015). In 2022, Wolff said that SP is how much someone is seen as a real person when they are communicating through a medium. Thus, the researcher of this study hypothesized that:

H7: HIs have a significant positive impact on SP.

H8: VIs have a significant positive impact on SP.

The Impact of PT on CBI.

The influence of PT on CBI is critical. (Lien et al., 2015) investigated how trust impacts CBI, stressing its mediation function in online hotel booking. This study emphasizes the crucial role of trust in forming consumer intentions, lending credence to the larger assumption that trustworthiness has a significant impact on customer behavior. Furthermore, (Alfraihat et al., 2024) found that the trust influenced customers' purchase intentions, demonstrating that trust has a direct influence on consumer behavior. Furthermore, (Ghaliba and Ardiansyah, 2022) discovered that Instagram influencers' competence and trustworthiness greatly influence customer purchase intention. (Petrova and Datta, 2022) discovered that customer attitudes regarding influencers recommendations were heavily impacted by the influencers PT, which had an impact on the intention to buy the products recommended. Because trust is the most important factor in influencer marketing, you should put a lot of attention on it. This is because trustworthy influencers help people make decisions and sales (Berhanu & Raj, 2020). Thus, the researcher of this study hypothesized that:

H9: PT have a significant positive impact on CBI.

The Impact of PU on CBI.

Marketers try to make content that is both interesting and useful to get their target audience more engagement (Alfraihat et al., 2024). Customers will feel like they are a bigger part of the experience, which will lead to more sales. Also, a high engagement rate shows that the followers find the content interesting and useful (Farivar et al., 2021). (Mahdzar et al., 2022) stressed the importance of PU in determining booking intentions. Furthermore, (Mohamad et al., 2021) established perceived enjoyment and

perceived price value into the modified Technology Acceptance Model, demonstrating their substantial impact on customer behavioral intentions toward mobile the hotel booking, highlighting the multiple aspects of PU in determining booking intent. The content a business offers is a big part of CBI. When tourism businesses work with influencers, they need to be careful who they work with and make sure the content they create is useful for their followers (Lai et al., 2013). Thus, the researcher of this study hypothesized that:

H10: PU have a significant positive impact on CBI.

The Impact of SP on CBI.

According to (Amin et al., 2021), customers are more likely to buy things online when they are in high SP stages. Numerous studies have demonstrated that SP significantly affects CBI (Hajli et al., 2017; Gao et al., 2022; Ye et al., 2020). (Hajli et al., 2017) underscored the crucial role of trust in social media platforms on purchase intentions, highlighting how SP can elevate users' willingness to buy. (Ye et al., 2020) also emphasize that enhancing a website's SP fosters customer trust, boosting their intention to purchase. As individuals gain more information about a product, their confidence naturally increases, making them more inclined to book. Additionally, (Gao et al., 2022) found that SP strongly affects purchase intentions. Thus, the researcher of this study hypothesized that:

H11: SP has a significant positive impact on CBI.

Methodology

Data Collection Tool

The investigation developed questionnaire items through using the measuring scale from the studies listed below. HIs and VIs are assessed by fifteen items taken from the (Galdón-Salvador et al., 2024) research. (Ayeh et al., 2013) study, was employed to measure PT and PU utilizing 5 items for each variable. The measurement of SP utilized five items adapted from the study conducted by (Wolff, 2022). (Finally, Lou and Kim's, 2019) study was utilized to assess CBI using three questions. Using a five-point Likert scale, to rate all the items that had to do with the model suggested in the study.

Population and Sampling

The study's target population comprises Instagram users from generations Y and Z living in Amman Jordan and follow at least one influencer. This study is being conducted with persons from the Y and Z age groups, who are expected to utilize technology more often. Furthermore, Instagram stands as a favoured social media network among generations Y and Z, accounting for approximately 80% of all Instagram users (Statista, 2023). Individuals born after 1981 are classified as Y and Z generations (Bodhi et al., 2021). Instagram users were the targeted research population because it is a popular way for SMIs to connect with and interact with their followers. Instagram is a very visual site (Casaló et al., 2020), and people post more personal and intimate content based on their own identity rather than their relationships (Sheldon & Bryant, 2016). It's also the most popular and fastest-growing social media site among Jordanians (Freihat, 2023) and lets people follow HIs or VIs (Mirowska & Arsenyan, 2023) easily. 63% of the people in Jordan are under 30 years old, making it one of the youngest countries in the world (Youth, 2023) and so it was chosen for the study.

The total population number was hard to pin down because the number of Instagram users in the Y and Z generations is dynamic and keeps going up over time. So, the study relied on the idea that there was a larger population, which made it easier to pick a none systematic random sample. According to Bougie and (Sekaran's, 2019) suggested sample sizes, 384 persons are appropriate for a population of 1,000,000. So this study continues on to gather and distribute the questionnaire (online form) to reach the predetermined sample size by following the Instagram users of the Y and Z generations and arrange with them directly and indirectly (other ways of contact) and asked them to participate in filling the electronic questionnaire. The survey, which took place from January to February 2024, reached 400 people in total. Because 15 surveys were filled out incorrectly or not at all, they were taken out of the study. This left 385 questionnaire forms to be analyzed.

The Results

Data Analysis

Data analysis was conducted using two basic software programs; SPSS version (27) and the Smart PLS (release 4.1.0.0). The structural model was tested using Smart PLS software such that the confirmatory factor analysis

(CFA) which included the standardized indicators' loadings, Cronbach alpha (CA), average variance extracted (AVE) and composite reliability

(CR) in addition to testing the research hypotheses. On the other hand; SPSS was used to estimate the constructs' means, standard deviations, skewness, and kurtosis.

Validity and Reliability

Table (2) means, standard deviations, standardized loadings, Cronbach Alpha (CA) Composite reliability (CR) and AVE for the factors.

Factors	Sub Factor	Item's				Factor's		
		Code	Mean	sd	loadings	CA	CR	AVE
Independent Variables	HIs	IV1.1	3.59	1.17	0.858	0.975	0.978	0.745
		IV1.2	3.60	1.14	0.872			
		IV1.3	3.56	1.15	0.839			
		IV1.4	3.47	1.15	0.844			
		IV1.5	3.57	1.13	0.847			
		IV1.6	3.56	1.18	0.897			
		IV1.7	3.49	1.21	0.837			
		IV1.8	3.44	1.16	0.884			
		IV1.9	3.39	1.21	0.871			
		IV1.10	3.49	1.13	0.882			
		IV1.11	3.52	1.20	0.903			
		IV1.12	3.47	1.15	0.873			
		IV1.13	3.39	1.20	0.842			
		IV1.14	3.39	1.19	0.841			
		IV1.15	3.45	1.12	0.852			
	VIs	IV2.1	3.48	1.31	0.856	0.977	0.979	0.757
		IV2.2	3.45	1.31	0.851			
		IV2.3	3.50	1.25	0.890			
		IV2.4	3.49	1.26	0.888			
		IV2.5	3.52	1.33	0.946			
		IV2.6	3.50	1.32	0.901			
		IV2.7	3.59	1.26	0.882			
		IV2.8	3.55	1.26	0.886			
		IV2.9	3.52	1.31	0.887			
		IV2.10	3.56	1.29	0.855			
		IV2.11	3.22	1.38	0.830			
		IV2.12	3.24	1.35	0.832			
		IV2.13	3.25	1.36	0.836			
		IV2.14	3.25	1.36	0.840			
		IV2.15	3.23	1.35	0.860			

Mediating variables	PT	MV1.1	3.81	1.04	0.834	0.914	0.936	0.744
		MV1.2	3.83	0.94	0.892			
		MV1.3	3.73	1.04	0.851			
		MV1.4	3.67	0.99	0.873			
		MV1.5	3.81	0.93	0.862			
	PU	MV2.1	3.65	1.08	0.883	0.936	0.952	0.797
		MV2.2	3.63	1.07	0.915			
		MV2.3	3.60	1.11	0.877			
		MV2.4	3.60	1.05	0.894			
		MV2.5	3.66	1.07	0.896			
	SP	MV3.1	3.02	1.26	0.891	0.936	0.951	0.797
		MV3.2	3.04	1.28	0.895			
		MV3.3	2.97	1.25	0.884			
		MV3.4	3.01	1.22	0.907			
		MV3.5	3.03	1.26	0.886			
Dependent variable	CBI	DV1	3.48	1.01	0.833	0.796	0.880	0.709
		DV2	3.55	0.71	0.871			
		DV3	3.72	0.97	0.822			

Table (2) presents the values of items' means, standard deviations, and standardized loadings which reflects the concept of convergent validity. the provided results concerning the loadings show that the least loading value being reached was (0.830) related to the item coded (IV2.11) in the VIs as this value argued the smallest value hence all the other values were considered to be greater than the minimum required (0.700) suggesting reasonable convergent validity for each factor.

The table also represents the values of a substantial indicator concerning validity; the average variance extracted (AVE) which informs about the share of the variance magnitude being explained by each item of the construct; generally; the minimum value which should be surpassed is (0.50). As could be figured out by the included and suggested figures of AVE; the values, show that the minimum AVE value was (0.709) related to the dependent variable (CBI), consequently the results suggest suitable and satisfactory validity.

Further table (2) presents both the Cronbach alpha and composite reliabilities. Checking the values of these two indicators it can be seen that that the minimum of (CA) value was (0.914) for mediator variable; PT, while the minimum composite reliability (CR) being revealed was (0.936) for mediator variable; PT. The reliability mentioned values reflect good reliability values as it exceeded (0.70) so a conclusion of a reasonable high reliability.

Discriminant validity

Table (3) Furnell - Larker Discriminant Validity

	CBI	HIs	PT	PU	SP	VI _s
CBI	0.842					
HIs	0.625	0.863				
PT	0.771	0.647	0.863			
PU	0.638	0.520	0.734	0.893		
SP	0.308	0.128	0.334	0.450	0.893	
VI _s	-0.195	-0.394	-0.205	-0.144	0.404	0.870

Bold values in diagonal are the square roots of AVE

Table (3) indicates the results of discriminant validity using the concept of Furnell - Larker. This type of validity assumes that the variable inter correlate with a minimum acceptable degree. According to provided results, the greatest correlation value was monitored between PT and CBI was (0.771). the table introduces an important indicator for assessing discriminant validity which is the square root of the (AVE) (in bold diagonally). It was suggested that the values of this indicator must be greater than the inter correlations for any given construct. The embedded results align with the suggestion; consequently, the discriminant validity was considered to be satisfied.

The Descriptive Statistics

Table (4) factors' means, standard deviations and normality indicators.

Factors	Means	Sd	Skewness	Kurtosis
HIs	3.49	1.01	-0.81	-0.72
VI _s	3.42	1.14	-0.65	-0.97
PT	3.77	0.85	-1.42	1.15
PU	3.63	0.96	-0.99	-0.08
SP	3.01	1.12	0.01	-1.53
CBI	3.59	0.75	-0.91	0.36

Table (4) presents the means and standard deviation values and values of normality indicators. Normality is an important issue and should be checked prior to proceed with further analysis. Normality was explored by means two basic indicators: skewness and kurtosis; the values of skewness ranged between (0.01) and (- 1.42) these values reflect an approximate normal data behavior as it was felled between (-3 to +3). On the same direction and concerning the kurtosis indicator; it was found that greatest observed value of kurtosis (- 1.53) in the PT this value was less than the maximum ceiling value (8) Hair et al. (2010) and Kline (2005). Upon the figures obtained it can be said that no issues concerning normality.

Table (5) Multi-Collinearity Diagnosis Among the Different Predictors.

Direction	VIF
HIs->CBI	1.980
HIs->PT	1.183
HIs->PU	1.183
HIs->SP	1.183
PT->CBI	2.761
PU->CBI	2.523
SP->CBI	1.766
VIIs->CBI	1.635
VIIs->PT	1.183
VIIs->PU	1.183
VIIs->SP	1.183

Table (5) introduces the diagnosis results of multi collinearity among the predictors. Generally, the multicollinearity is the degree of linear association among the predictors. The desirable situation is that when the values of VIF as less as possible. If the values were (less than 10) it expresses lower degrees of association. (Harrisonet al., 2020). It was noted that the maximum value of VIF (2.761) which was less than (10) concluding no multicollinearity concerns.

Hypotheses Testing

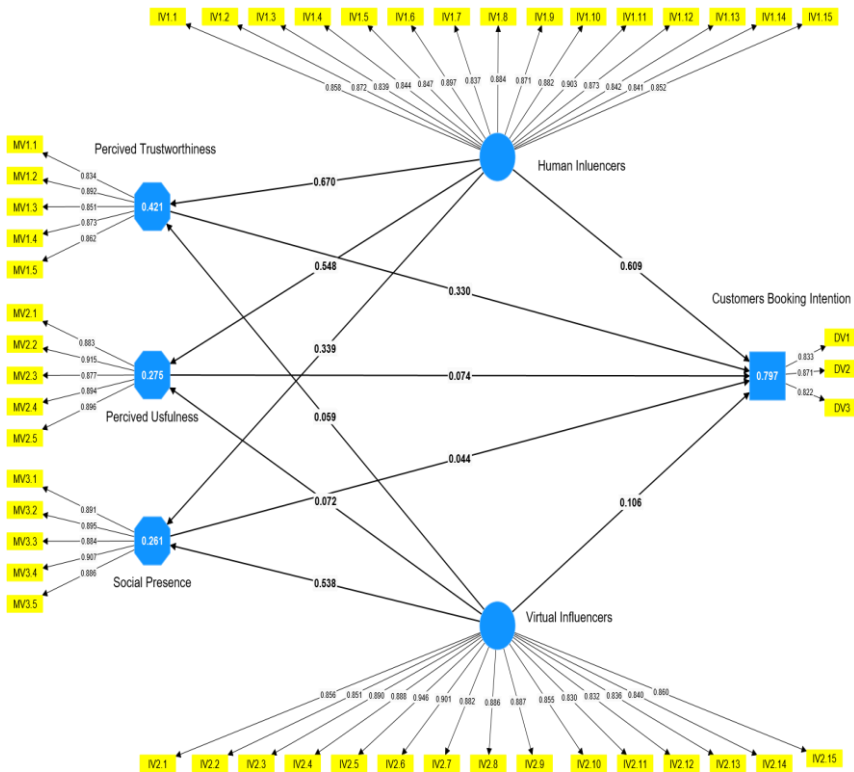


Figure (4) the Structural Model with R^2 (inside the dependent variable)

The following table summarizes the results of hypotheses being tested.

Table (6) Standardized Impact Values for Hypotheses

Hypotheses	Impact Direction	β	se	t	Prob	Hypotheses Result
H1	HIs--->PT	0.670	0.040	16.558	0.000	Supported
H2	VIIs--->PT	0.059	0.028	2.017	0.036	Supported
H3	HIs--->CBI	0.609	0.032	19.874	0.000	Supported
H4	VIIs--->CBI	0.106	0.026	4.104	0.000	Supported

Hypotheses	Impact Direction	β	se	t	Prob	Hypotheses Result
H5	HIs---> PU	0.548	0.041	13.498	0.000	Supported
H6	VIIs---> PU	0.072	0.036	2.000	0.046	Supported
H7	HIs---> SP	0.339	0.050	6.805	0.000	Supported
H8	VIIs--->SP	0.538	0.046	11.661	0.000	Supported
H9	PT--->CBI	0.330	0.043	7.273	0.000	Supported
H10	PU--->CBI	0.074	0.031	2.129	0.034	Supported
H11	SP--->CBI	0.044	0.028	1.532	0.126	Not Supported

The results of testing the H1 included in table (6) reflect that the impact value of HIs on the PT was (0.670), this impact value was considered to be statistically significant as the related probability value (0.000) was < (0.05), supporting H1. The results of testing the H2 included in table (6) depicted that the impact value of VIIs on the PT was (0.059), this impact value was considered to be statistically significant as the related probability value (0.036) was < (0.05), supporting H2. The results of testing the H3 presented by table (6) above show that the impact value of HI son the CBI was (0.609), this impact value was considered to be statistically significant as the related probability value (0.000) was < (0.05), supporting H3. The results of testing the H4 included in table (6) reflect that the impact value of VIIs on the CBI was (0.106), this impact value was considered to be statistically significant as the related probability value (0.000) was < (0.05), supporting H4.

Also, the results of the impact value of HIs on the PU, the impact value was (0.548), this impact value was considered to be statistically significant as the related probability value (0.000) was <(0.05),supporting H5. The results of the impact value of VIIs on the PU, the impact value was (0.072), this impact value was considered to be statistically significant as the related probability value (0.046) was < (0.05), supporting H6. The results of the impact value of HI son the SP, the impact value was (0.340), this value was considered to be statistically significant as the related probability value (0.000) was < (0.05), supporting H7. The results of the impact value of VIIs on the SP, the impact value was (0.578), this value was considered to be statistically significant as the related probability value (0.000) was < (0.05), supporting H8.

Table (6) submits the results of the impact value of PT on CBI, the impact value was (0.311), this value was considered to be statistically significant as the related probability value (0.000) was $< (0.05)$, supporting H9. The results of the impact value of PU on CBI, the impact value was (0.074), this value was considered to be not statistically significant as the related probability value (0.034) was $< (0.05)$, supporting H10. The results of the impact value of SP on CBI, the impact value was (0.044), this value was considered to be not statistically significant as the related probability value (0.126) was $> (0.05)$, Relying on the current result the hypothesis was refused.

Conclusion

The current research shows that influencer marketing is having a bigger effect on tourism and customer purchase intention. SMIs posts and interactions with their followers can have a huge effect on customers purchase intention. Also, VIs marketing is getting more and more attention, which is great for the tourism business because it gives them a chance to affect customers' decisions and booking intention (Mak, 2020).

Recognizing a gap in knowledge on how VIs and HIs effect tourism, this study performed a survey online to give nuanced insights. The survey aims to explore the workings of influencer marketing in the tourist sector, specifically comparing the effects of VIs and HIs. The study examined at how these influencers affect CBI, decisions, and, most significantly, the future growth of influencer marketing from the customers' viewpoint.

In summarizing the results, this study's findings showed a significant and direct positive impact of HI son PT, CBI, PU and SP. Similarly, VIs demonstrated a notable positive direct impact on PT, PU, SP and CBI. Additionally, the study discovered that PT plays an important effect, showing a positive impact on CBI. Also, PU exhibited a significant positive impact on CBI. Notably, the direct impact of SP on CBI was not statistically significant. Generally, while this study offers insight on the unique effects of HIs and VIs in the tourist business, it also highlights the need for more research. VIs, on the other hand, are not well known yet, which makes it harder to look into them. If VIs become more well-known, more study might show different results.

Theoretical Implications

Three important theoretical contributions come from this work. First, it gives more information about the new trend of using VIs marketing in tourism. That's important because new information and communication tools are what make tourism competitive as emphasized by (Buhalis, 2020). This study finds new ways to think about VIs as tourist ambassadors by connecting PT, PU, SP, and CBI. It sets the stage for more study on this new trend and questions the idea that VIs and HIs are fundamentally different.

Second, our study is one of the first to assess the impacts of HIs and VIs on CBI in the tourist industry via PT, PU, and SP. Our study in this area adds to prior studies on tourism and SMIs (e.g., Femenia-Serra et al., 2022; Kapoor et al., 2022). Despite predictions that the advent of VIs will have a significant effect on tourism (Xie-Carson et al., 2021). The findings of this study not only contribute to the existing body of knowledge but also fill a crucial gap in the literature. Third, the current study gives a wide variety of findings concerning key aspects that greatly impact the tourism industry. Because of this, the results of this study have many important effects on the tourism industry not only in Jordan but also in other countries.

Managerial Implications

The study's analysis of the data shows that HIs have a bigger impact on CBI than VIs. As the marketing manager of a tourism company It is essential to create content that is both useful and trustworthy. This builds trust in the organization or destination, which leads to increased booking intention. Based on this analysis, it is better to focus on HIs than VIs ones for now, since HIs are more trustworthy, useful, social presence, and influence on CBI.

For marketing experts, it is suggested to focus their social media and influencer campaigns on these components because the results demonstrate that they play a key vital to increase bookings. Creating helpful content for the community on a regular basis might help to build trust. Moreover, collaboration with SMIs who are good representatives of your brand and destination will also help build trust in the brand.

We think that our research on HIs and VIs provides both academics and industry professionals with useful information. One of the most recent developments in influencer marketing efforts is the use of VIs (Kadekova & Holieninova, 2018). They have similarities with HIs in that they have public

identities and narratives, which encourages more engagement between users and influencers online (Kim et al., 2023). While VIs are becoming more popular as a means of grabbing users' attention on social media (Stein et al., 2022), but limited study has been done on how successful they are.

8. Ethical Considerations

VIs raise ethical issues such as a decreased transparency about who is responsible for the content and whose and which moral values are being espoused (Hofeditz et al., 2022). As influencers are increasingly used as a highly effective tool by brands and companies to market products and influence the lives of adolescents' and adults, it becomes necessary to examine how VIs are perceived in comparison to HIs. Employing VIs can effectively mitigate the risks associated with human errors in marketing campaigns (Kim & Wang, 2023). It is worth noting that the lack of transparency around the creators of these VIs and the concept of audiences following artificial entities have sparked debates around marketing ethics. Critics argue that this practice primarily benefits the brands, with the potential advantages for consumers or the public interest remaining elusive. In response to these concerns, the Federal Trade Commission (FTC, 2022) recently proposed expanding the definition of "endorsers" to encompass VIs, highlighting the current lack of standardized ethical guidelines governing this emerging phenomenon.

VIs' ontological status raises challenging ethical questions. Regarding their motivation, if creating "fake" identities for business might be questionable, this is not meaningfully different from real influencers exaggerating and proposing the best version of themselves (Conti et al., 2022). Further, even if VIs business model is transparent, the secrecy behind their management threatens both real influencers and audiences. The former would see VIs as unfair competitors; the latter might find VIs communication deceiving. Finally, at present, the moral and legal responsibilities of human-controlled VIs are difficult to define, and this will be even more challenging for AI-driven VIs.

9. Limitations and Future Research

There are several limitations to this study, even though it may have given academics and marketing useful information. First limitation is that, when cultural influences are included, the results are not applicable because to selection of sample. Second, the sample is only made up of people from

generations Y and Z who live in Amman, Jordan. The last thing is that this study only looked at Instagram influencers and the people who follow them. Various specialties of influencers on different social media sites might be researched and compared in future studies. Because of these limitations, the study's conclusions are only applicable to this unique environment, and future research should examine similar findings in other contexts. Although the study has some limitations, it is expected to add to the body of relevant literature and experts on the factors to be considered in the development of CBI.

VIs are a fairly new idea that needs to be looked into in more depth in the future. First, it will be intriguing to see if our findings can be applied to other types of virtual influencers, such as those that resemble anime (such as Noonouri), animal shaped (such as Geico), and food- shaped (such as Nobody Sausage), it will be exciting to see if our findings extend to those types. Second, our findings could be put to the test by another study that looks at a different field, such as fashion or beauty. Third, to address the previously stated research questions and assess the created research hypotheses, this study modified a quantitative research technique based on survey questionnaires. Future study might investigate these topics utilizing a qualitative technique, particularly case studies. Fourth, it is recommended to investigate the impact of HIs and VIs on the CBI, through PT, PU and SP. This technique would give a more a more thorough grasp of the complicated linkages while also contributing to the larger body of knowledge in this study topic. Finally, future studies could include a comparative analysis of data from different countries, in order to significantly contribute to the body of literature. This will help researchers understand various public impression patterns regarding human and virtual influencers in different countries. Additionally, future studies could investigate and compare the effect of human and virtual influencers through different social media platforms.

References

- Akhtar, N. & Siddiqi, U. (2023). Effects of service providers' self-disclosure on booking platforms on consumers' trust, hesitation, and booking intentions: moderating role of social media influencers. *Journal of Hospitality Marketing & Management*, 1-29.
- Alfraihat, S., Pechuán, I., Salvador, J. & Tarabieh, S. (2024). Content Is King: The Impact of Content Marketing On Online Repurchase Intention. *Educational Administration: Theory and Practice*, 30(6), 4017-4030.
- Amin, M., Ryu, K., Cobanoglu, C. & Nizam, A. (2021). Determinants of online hotel booking intentions: website quality, social presence, affective commitment, and e-trust. *Journal of Hospitality Marketing & Management*, 30(7), 845-870.
- Ao, L., Bansal, R., Pruthi, N. & Khaskheli, M. (2023). Impact of Social Media Influencers on Customer Engagement and Purchase Intention: A Meta-Analysis. *Sustainability*, 15(3), 2744.
- Arusell, M. & Pettersson, M. (2022). *Fake Existence, Real Influence?* Computer Generated Imagery (CGI) Influencers' Impact on Consumers' Purchase Intentions.
- Aslam, W., Khan, S., Arif, I. & Zaman, S. (2022). Vlogger's reputation: Connecting trust and perceived usefulness of vloggers' recommendation with intention to shop online. *Journal of Creative Communications*, 17(1), 49-66.
- Audrezet, A., De Kerviler, G. & Moulard, J. (2020). Authenticity under threat: When social media influencers need to go beyond self-presentation. *Journal of business research*, 117, 557-569.
- Ayeh, J., Au, N. & Law, R. (2013). Predicting the intention to use consumer-generated media for travel planning. *Tourism management*, 35, 132-143.
- Belanche, D., Casaló, L., Flavián, M. & Ibáñez-Sánchez, S. (2021). Understanding influencer marketing: The role of congruence between influencers, products and consumers. *Journal of Business Research*, 132, 186-195.

- Berhanu, K. & Raj, S. (2020). The trustworthiness of travel and tourism information sources of social media: perspectives of international tourists visiting Ethiopia. *Heliyon*, 6(3).
- Bodhi, R., Singh, T. & Rahman, S. (2021). Recent themes in social media research: a systematic review. *International Journal of Business Information Systems*, 37(3), 287-307.
- Bougie, R. & Sekaran, U. (2019). Research methods for business: A skill building approach. John Wiley & Sons.
- Harrison, V., Kemp, R., Brace, N. & Snelgar, R. (2020). *SPSS for Psychologists*. Bloomsbury Publishing.
- Britt, R., Hayes, J., Britt, B. & Park, H. (2020). Too big to sell? A computational analysis of network and content characteristics among mega and micro beauty and fashion social media influencers. *Journal of Interactive Advertising*, 20(2), 111-118.
- Buhalis, D. (2020). Technology in tourism-from information communication technologies to eTourism and smart tourism towards ambient intelligence tourism: a perspective article. *Tourism Review*, 75(1), 267-272.
- Casaló, L., Flavián, C. & Ibáñez-Sánchez, S. (2020). Influencers on Instagram: Antecedents and consequences of opinion leadership. *Journal of business research*, 117, 510-519.
- Chatzigeorgiou, C. (2017). Modelling the impact of social media influencers on behavioural intentions of millennials: The case of tourism in rural areas in Greece. *Journal of Tourism, Heritage & Services Marketing (JTHSM)*, 3(2), 25-29.
- Cheung, M., Leung, W., Yang, M., Koay, K. & Chang, M. (2022). Exploring the nexus of social media influencers and consumer brand engagement. *Asia Pacific Journal of Marketing and Logistics*.
- Chiou, E., Schroeder, N. & Craig, S. (2020). How we trust, perceive, and learn from virtual humans: The influence of voice quality. *Computers & Education*, 146, 103756.
- Cohen, S., Liu, H., Hanna, P., Hopkins, D., Higham, J. & Gössling, S. (2022). The rich kids of Instagram: Luxury travel, transport modes, and desire. *Journal of Travel Research*, 61(7), 1479-1494.

- Conti, M., Gathani, J. & Tricomi, P. (2022). Virtual influencers in online social media. *IEEE Communications Magazine*, 60(8), 86-91.
- da Silva Oliveira, A. & Chimenti, P. (2021). " Humanized Robots": A Proposition of Categories to Understand Virtual Influencers. *Australasian Journal of Information Systems*, 25.
- Dao, P. (2023). *Are you a real human? Factors of virtual influencers that predict to Generation Z consumers' brand attitude and booking intention* (Master's thesis) University of Twente.
- Dash, G., Kiefer, K. & Paul, J. (2021). Marketing-to-Millennials: Marketing 4.0, customer satisfaction and purchase intention. *Journal of business research*, 122, 608-620.
- Du, T. (2022). *Virtual influencers in metaverse: Discussion and research on the impacts of the purchasing decisions of Generation Z*.
- Duffy, A. & Kang, H.. (2020). Follow me, I'm famous: travel bloggers' self-mediated performances of everyday exoticism. *Media, Culture & Society*, 42(2), 172-190.
- Fang, G., Qalati, S., Ostic, D., Shah, S. & Mirani, M. (2022). Effects of entrepreneurial orientation, social media, and innovation capabilities on SME performance in emerging countries: A mediated-moderated model. *Technology Analysis & Strategic Management*, 34(11), 1326-1338.
- Farivar, S., Wang, F. & Yuan, Y. (2021). Opinion leadership vs. para-social relationship: Key factors in influencer marketing. *Journal of Retailing and Consumer Services*, 59, 102371.
- Femenia-Serra, F., Gretzel, U. & Alzua-Sorzabal, A. (2022). Instagram travel influencers in# quarantine: Communicative practices and roles during COVID-19. *Tourism Management*, 89, 104454.
- Ferries, C. (2020). Online Travel Booking Statistics 2020. Available at: <https://www.condorferries.co.uk/online-travel-booking-statistics>.
- Franke, C., Groeppel-Klein, A. & Müller, K. (2023). Consumers' responses to virtual influencers as advertising endorsers: novel and effective or uncanny and deceiving? *Journal of Advertising*, 52(4), 523-539.

- Freihat (2023) Jordan's digital renaissance: A deep dive into Jordan's digital landscape in 2023. Available at: <https://jordandaily.net/jordans-digital-renaissance-a-deep-dive-into-jordans-digital-landscape-in-2023/>
- FTC. (2022, May 19). FTC Proposes to Strengthen Advertising Guidelines Against Fake and Manipulated Reviews. Federal Trade Commission. Available online at: [https:// www.ftc.gov/news-events/news/press-releases/2022/05/ftc-proposes-strengthenadvertising-guidelines-against-fake-manipulated-reviews](https://www.ftc.gov/news-events/news/press-releases/2022/05/ftc-proposes-strengthenadvertising-guidelines-against-fake-manipulated-reviews)
- Galdón-Salvador, J., Gil-Pechuán, I. & Tarabieh, S. (2024). Effect of Social Media Influencers on Consumer Brand Engagement and its Implications on Business Decision Making. *Profesional de la información*, 33(2).
- Gao, P., Zeng, Y. & Cheng, Y. (2022). The formation mechanism of impulse buying in short video scenario: Perspectives from presence and customer inspiration. *Frontiers in Psychology*, 13, 870635.
- Gerlich, M. (2023). The Power of Virtual Influencers: Impact on Consumer Behaviour and Attitudes in the Age of AI. *Administrative Sciences*, 13(8), 178.
- Ghaliba, A. & Ardiansyahb, M. (2022). *The Role of Instagram Influencers in Affecting Purchase Decision of Generation Z*.
- Guerreiro, C., Viegas, M., & Guerreiro, M. (2019). Social networks and digital influencers: Their role in customer decision journey in tourism. *Journal of Spatial and Organizational Dynamics*, 7(3), 240-260.
- Hajli, N., Sims, J., Zadeh, A. & Richard, M. (2017). A social commerce investigation of the role of trust in a social networking site on purchase intentions. *Journal of business research*, 71, 133-141.
- Hair, J., Black, W., Babin, B. & Anderson, R.E. (2010). *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice-Hall.
- Hermenda, A., Sumarwan, U. & Tinaprillia, N. (2019). The effect of social media influencer on brand image, self-concept, and purchase intention. *Journal of Consumer Sciences*, 4(2), 76-89.
- Hofeditz, L., Nissen, A., Schütte, R. & Mirbabaie, M. (2022). *Trust me, I'm an influencer! -A comparison of perceived trust in human and virtual influencers*.
- Jaya, I. & Prianthara, I. (2020, April). *Role of social media influencers in tourism destination image: How does digital marketing affect purchase*

- intention?* In 3rd International Conference on Vocational Higher Education (ICVHE 2018) (pp. 9-20). Atlantis Press.
- Jiménez-Castillo, D. & Sánchez-Fernández, R. (2019). The role of digital influencers in brand recommendation: Examining their impact on engagement, expected value and purchase intention. *International Journal of Information Management*, 49, 366-376.
- Kadekova, Z. & Holiencinova, M. (2018). Influencer marketing as a modern phenomenon creating a new frontier of virtual opportunities. *Communication Today*, 9(2).
- Kapoor, P., Balaji, M., Jiang, Y. & Jebarajakirthy, C. (2022). Effectiveness of travel social media influencers: A case of eco-friendly hotels. *Journal of travel research*, 61(5), 1138-1155.
- Khan, R. & Sutcliffe, A. (2014). Attractive agents are more persuasive. *International Journal of Human-Computer Interaction*, 30(2), 142-150.
- Kim, D., Kim, E. & Shoenberger, H. (2023). The next hype in social media advertising: Examining virtual influencers' brand endorsement effectiveness. *Frontiers in Psychology*, 14, 485.
- Kim, D., Kim, E. & Shoenberger, H. (2023). The next hype in social media advertising: Examining virtual influencers' brand endorsement effectiveness. *Frontiers in Psychology*, 14, 485.
- Kline, R. (2005). *Principles and practice of structural equation modelling*. New York: The Guilford Press.
- Koay, K., Cheung, M., Soh, P. & Teoh, C. (2022). Social media influencer marketing: The moderating role of materialism. *European Business Review*, 34(2), 224-243.
- Lai, Y., Huang, H., Lu, R. & Chang, C. (2013). The effects of website trust, perceived ease of use, and perceived usefulness on consumers' online booking intention: Evidence from Taiwan B&B sector. *Life Science Journal*, 10(2), 1516-1523.
- Leung, F., Gu, F. & Palmatier, R. (2022). Online influencer marketing. *Journal of the Academy of Marketing Science*, 1-26.
- Li, J. (2015). The benefit of being physically present: A survey of experimental works comparing copresent robots, telepresent robots and

- virtual agents. *International Journal of Human-Computer Studies*, 77, 23-37.
- Lien, C., Wen, M., Huang, L. & Wu, K. (2015). Online hotel booking: The effects of brand image, price, trust and value on purchase intentions. *Asia Pacific Management Review*, 20(4), 210-218.
- Lou, C. & Kim, H. (2019). Fancying the new rich and famous? Explicating the roles of influencer content, credibility, and parental mediation in adolescents' parasocial relationship, materialism, and purchase intentions. *Frontiers in psychology*, 10, 2567.
- Lou, C. & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of interactive advertising*, 19(1), 58-73.
- Lou, C., Kiew, S., Chen, T., Lee, T., Ong, J. & Phua, Z. (2023). Authentically fake? How consumers respond to the influence of virtual influencers. *Journal of Advertising*, 52(4), 540-557.
- Mahdzar, M., Baharum, S., Sahib, M., Fadzil, N., Kamal, S. & Hamidi, S. (2022). Effects of Factors Influencing Hotel Customers' Online Booking Intention using Malaysian Online Local Platform.
- Mak, M. (2020). The evolution of the virtual influencer: no longer just a trend. <https://www.thedrum.com/opinion/2020/10/01/the-evolution-the-virtual-influencer-no-longer-just-trend>
- Mammadli, G. (2021). *The role of brand trust in the impact of social media influencers on purchase intention*. Available at SSRN 3834011.
- Marin, C. & Condrea, E. (2020). Choosing the Hotel According to the Quality Presented by Influencers on Social Networks. *LUMEN Proceedings*, 14, 701-714.
- Men, L. & Tsai, W. (2015). Infusing social media with humanity: Corporate character, public engagement, and relational outcomes. *Public Relations Review*, 41(3), 395-403.
- Mirowska, A. & Arsenyan, J. (2023). Sweet escape: The role of empathy in social media engagement with human versus virtual influencers. *International Journal of Human-Computer Studies*, 174, 103008.
- Mohamad, M., Hanafiah, M. & Radzi, S. (2021). Understanding tourist mobile hotel booking behaviour: Incorporating perceived enjoyment and

- perceived price value in the modified Technology Acceptance Model. *Tourism & Management Studies*, 17(1), 19-30.
- Moustakas, E., Lamba, N., Mahmoud, D., & Ranganathan, C. (2020, June). *Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers*. In 2020 International Conference on Cyber Security and Protection of Digital Services (Cyber Security) (pp. 1-6). IEEE.
- Myers, S., Sen, S., Syrdal, H. & Woodroof, P. (2024). The impact of Persuasion knowledge cues on social media engagement: A look at pet influencer marketing. *Journal of Marketing Theory and Practice*, 32(1), 43-60.
- Pop, R., Săplăcan, Z., Dabija, D. & Alt, M. (2022). The impact of social media influencers on travel decisions: The role of trust in consumer decision journey. *Current Issues in Tourism*, 25(5), 823-843.
- Petrova, K. & Datta, S. (2022). Value and sustainability of emerging social commerce professions: An exploratory study. *Information*, 13(4), 178.
- Qalati, S., Ostic, D., Sulaiman., Gopang, A. & Khan, A. (2022). Social media and SMEs' performance in developing countries: Effects of technological-organizational-environmental factors on the adoption of social media. *SAGE Open*, 12(2), 21582440221094594.
- Reinikainen, H., Tan, T., Luoma-aho, V. & Salo, J. (2021). Making and breaking relationships on social media: the impacts of brand and influencer betrayals. *Technological Forecasting and Social Change*, 171, 120990.
- Robinson, B. (2020). Towards an ontology and ethics of virtual influencers. *Australasian Journal of Information Systems*, 24.
- Ronnhed, J. & Wiksborg, S. (2021). *Virtual Influencers*, Friends to Listen to?
- Sands, S., Campbell, C., Plangger, K. & Ferraro, C. (2022). Unreal influence: leveraging AI in influencer marketing. *European Journal of Marketing*, 56(6), 1721-1747.
- Schroeder, J. & Epley, N. (2016). Mistaking minds and machines: How speech affects dehumanization and anthropomorphism. *Journal of Experimental Psychology: General*, 145(11), 1427.

- Seymour, M., Yuan, L., Dennis, A. & Riemer, K. (2020). *Facing the artificial: Understanding affinity, trustworthiness, and preference for more realistic digital humans*.
- Sheldon, P. & Bryant, K. (2016). Instagram: Motives for its use and relationship to narcissism and contextual age. *Computers in human Behavior*, 58, 89-97.
- Shin, J. & Lee, S. (2020, January). *Intimacy Between Actual Users and Virtual Agents: Interaction through "likes" and "comments"*. In 2020 14th International Conference on Ubiquitous Information Management and Communication (IMCOM) (pp. 1-4). IEEE.
- Statista (2023) Distribution of Instagram users worldwide as of July 2023, by age group. Available at:
<https://www.statista.com/statistics/325587/instagram-global-age-group/>
- Statista (2024) Influencer marketing market size worldwide from 2016 to 2024 Available at:
<https://www.statista.com/statistics/1092819/global-influencer-market-size/>
- Stein, J., Linda Breves, P. & Anders, N. (2022). Parasocial interactions with real and virtual influencers: The role of perceived similarity and human-likeness. *New Media & Society*, 14614448221102900.
- Tarabieh, S., Gil, I., Salvador, J. & AlFraihat, S. (2024). The new game of online marketing: How social media influencers drive online repurchase intention through brand trust and customer brand engagement. *Intangible Capital*, 20(1), 103-125.
- Thomas, V. & Fowler, K. (2021). Close encounters of the AI kind: Use of AI influencers as brand endorsers. *Journal of Advertising*, 50(1), 11-25.
- TIME. 2018. "The 25 Most Influential People on the Internet." <https://time.com/5324130/most-influential-internet/>
- Wibawa, R., Pratiwi, C., Wahyono, E., Hidayat, D. & Adiasari, W. (2022). Virtual influencers: is the persona trustworthy? *Jurnal Manajemen Informatika (JAMIKA)*, 12(1), 51-62.
- Wolff, W. (2022). *A trend or is the future of influencer marketing virtual? The effect of virtual influencers and sponsorship disclosure on purchase*

intention, brand trust, and consumer engagement (Master's thesis)
University of Twente.

Xie-Carson, L., Benckendorff, P. & Hughes, K. (2021). *Fake it to make it: Exploring Instagram users' engagement with virtual influencers in tourism*.

Ye, S., Lei, S., Shen, H. & Xiao, H. (2020). Social presence, telepresence and customers' intention to purchase online peer-to-peer accommodation: A mediating model. *Journal of Hospitality and Tourism Management*, 42, 119-129.

Youth. Unicef.org, Accessed September20, (2023). Available at: <https://www.unicef.org/jordan/youth>.

Zhou, Y. (2019). *Social media influencers and their marketing effects on followers? An exploratory study in restaurant review microblogs* (Doctoral dissertation, ISCTE-Instituto Universitario de Lisboa (Portugal)).